

CLAIMS

1. A call control method comprising of:

transmitting sound from a sound transmission and reception section (10) of a call control device and receiving the sound in the sound transmission and reception section;

detecting bioacoustic characteristic information of an auditory organ (8) of a telephone call receiver or a telephone call transmitter by the received sound; and

controlling call operation of the call control device based on the detected bioacoustic characteristic information.

2. The call control method as set forth in claim 1, comprising of:

detecting a distance between the auditory organ of the telephone call receiver or the telephone call transmitter and the sound transmission and reception section of the call control device based on the detected bioacoustic characteristic information; and

controlling the operation to connect or disconnect a communication line by the call control device based on the detected distance.

3. The call control method as set forth in claim 1, wherein the bioacoustic characteristic information of the auditory organ is a total acoustic impedance of an acoustic

impedance of an external ear (1), an acoustic impedance of a middle ear (2), and an acoustic impedance of an internal ear (3) of an operator of the call control device.

4. The call control method as set forth in any one of claims 1-3, wherein time information as well as the bioacoustic characteristic information or the distance information are detected and the communication line is connected or disconnected based on the detected bioacoustic characteristic information or distance information and the time information.

5. The call control method as set forth in any one of claims 1-3, wherein when the call operation control of the call control device is performed based on the detected bioacoustic characteristic information, voice recognition operation is controlled based on the detected bioacoustic characteristic information, as well as the communication line is connected or disconnected, and call-related operation is conducted through the voice recognition operation.

20 6. A call control device comprising:

a sound transmission and reception part (10) for transmitting and receiving sound; and

a bioacoustic characteristic information detection means (13, 31) for detecting bioacoustic characteristic information of the auditory organ (8) of the

operator of the call control device by the sound transmitted and received by the sound transmission and reception part,

5 wherein call operation is controlled based on the bioacoustic characteristic information detected by the bioacoustic characteristic information detection means.

7. The call control device as set forth in claim 6, further comprising a means (13, 31) for detecting a distance between the auditory organ and the transmission and reception section by comparing the acoustic characteristic information detected by the bioacoustic characteristic information detection means and a preliminarily obtained threshold value,

15 wherein the communication line is connected and/or disconnected according to the detected distance.

8. The call control device as set forth in claim 6, wherein

the transmission and reception section is a speaker (10); and

20 the bioacoustic characteristic information detection means is a signal processing section (13) for signal-processing the sound information received and transmitted by the speaker to detect the bioacoustic characteristic information of the auditory organ (8) of the operator of the call control device,

25

further comprising a distance detection means (13) for detecting the distance between the auditory organ of the telephone call receiver or the telephone call transmitter and the speaker based on the detected bioacoustic characteristic information,

wherein the call operation is controlled based on the distance detected by the distance detection means.

9. The call control device as set forth in any one of claims 6-8, wherein the transmission and reception section is composed of a piezoelectric element.

10. The call control device as set forth in any one of claims 6-8, wherein the transmission and reception section is composed of a voice coil.

11. The call control device as set forth in any one of claims 6-8, further comprising a voice recognition control section (51) for controlling call-related operation by voice recognition,

wherein when the distance between the transmission and reception section and the auditory organ is determined to be equal to or shorter than a preset value by the bioacoustic characteristic information detection means, voice recognition operation is started in the voice recognition control section to control the call-related operation.